

VFTDR Series

Double Oven Ultra Precision

OCXO

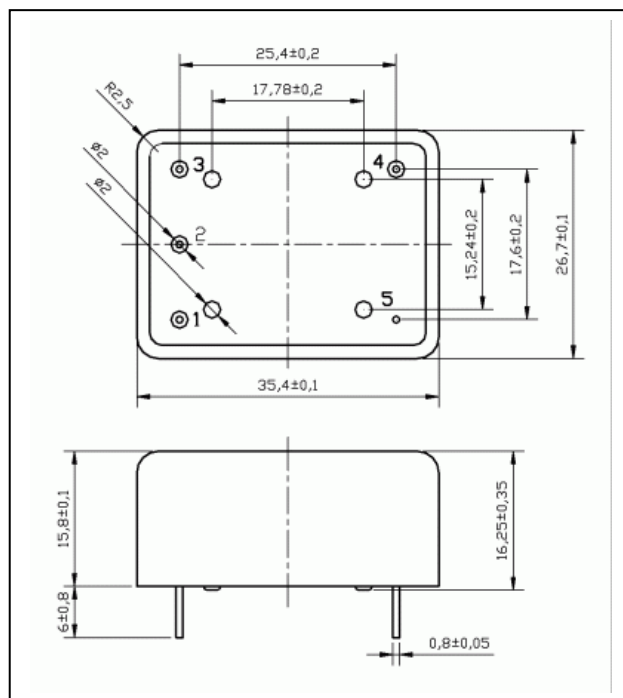
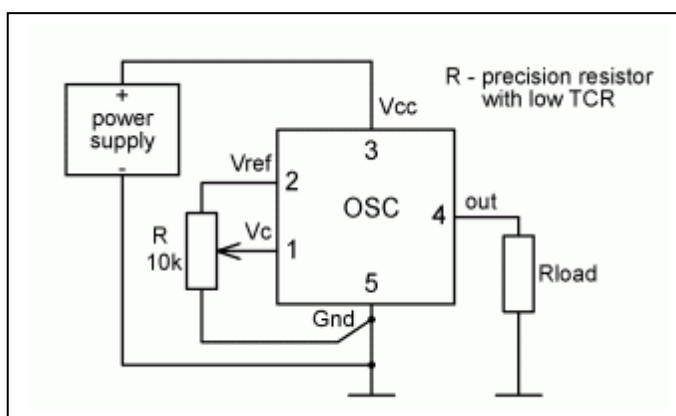


Features

- Smallest Size (1"x 1" x 0.5")
- Lowest Power Consumption (1W)
- Fastest Warm-up Time (5 min) in its class
- Superb Frequency Stability ($\pm 1 \times 10^{-10}$ over temp)
- Low Aging (2×10^{-10} /day, 2×10^{-8} /year)
- HCMOS/TTL or Sine Wave output
- Standard Frequencies: 5 MHz, 10 MHz, 12.8 MHz

Applications

- Telecommunication Systems
- Data Communications
- Stratum 2, 3E⁺
- Rubidium standard replacement



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Specifications:

Parameter	Symb	Condition	Min	Typ	Max	Unit	Note
Absolute Maximum Ratings							
Input Break Down Voltage	V _{cc}		-0.5		13.0	V	
Storage temper.	T _s		-40		85	°C	
Control Voltage	V _c		-1		9	V	

Electrical

Frequency	F		5.000	10.000	12.800	MHz	
Frequency stability	$\Delta F/F$	vs. Temp.		±0.1		ppb	
		vs. Supply		1	5	ppb/V	
Aging		per day		2E-10			after 30 days of operation
		per year		2E-8			
Allan Variance		.1s to 10s		1E-11			
SSB Phase Noise		10 Hz		-125		dBc/Hz	
		100 Hz		-145			
		10 KHz		-150			
Retrace		After 30 minutes			±1	ppb	
G-sensitivity		worst direction			±1.0	ppb/G	
Input Voltage	V _{cc}		4.75	5.0	5.25	V	12V±5% optional
Power consumption	P	steady state, 25°C		1.0	1.2	W	
		steady state, -30°C		2.0			
		start-up @ -30°C		2.5			
Load	10KOhm//15pF (HCMOS/TTL), 50 Ohm (Sinewave)						
Warm-up time	τ	to 0.01ppm accuracy			5	minutes	
Output Waveform		3.3V HCMOS/TTL compatible or Sinewave (>+7dBm)					-25dBm Harmonics at sine
Control voltage	V _c		0		4.0	V	Option "V"
Pull range		from nominal F	±0.5	±1		ppm	Option "V"
Deviation slope		Monotonic, posit		0.4		ppm/V	Option "V"
Setability	V _{c0}	@25°C, F _{nom} .	1.0	2.0	3.0	V	Option "V"

All parameters for 10 MHz

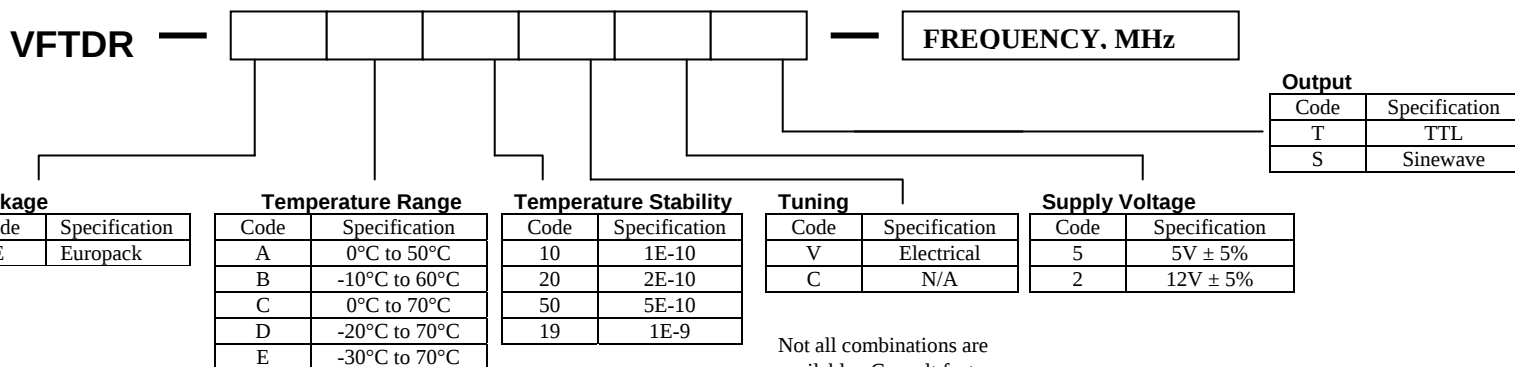
Environmental and Mechanical

Operating temp. range	-30°C to 70°C Standard, Other options – see chart below
Mechanical Shock	Per MIL-STD-202, 30G, 11ms
Vibration	Per MIL-STD-202, 5G to 2000 Hz
Soldering Conditions	230°C for 10s Max

Electrical Connections

Pin Out	Pin#1 – V _c ; Pin#2 – V _{ref} ; Pin#3 – V _{cc} ; Pin#4 – Output; Pin#5 – GND – "europack"
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How to Order



75 South Street, Hopkinton, MA 01748 • 800-982-5737 • 508-435-6831 • FAX 508 435-5289 • www.valpeyfisher.com



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